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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,010	03/06/2002	Yeun-Chol Chung	P22061	6689
7055	7590	10/05/2005	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			WANG, QUAN ZHEN	
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/091,010

Applicant(s)

CHUNG ET AL.

Examiner

Quan-Zhen Wang

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 5-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-11 is/are allowed.
- 6) ☒ Claim(s) 12-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 12, 14-16, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. (U.S. Patent US 5,949,560) in view of Ooi et al. (U.S. Patent US 6,829,440 B2) and further in view of Ishikawa et al. (U.S. Patent US 6,081,360).

Regarding claims 12 and 16, Roberts teaches a monitoring apparatus for monitoring the dispersion of optical signals in wavelength division multiplexing (WDM) optical networks (fig. 13), which comprises: an optical distributor (fig. 13, splitter 42) for distributing input optical signals; a first light receiver (fig. 13, the lower o/e converter 16) for photo-electrically converting the optical signals to measure the frequency band of the optical signals distributed by said distributor; a second light receiver (fig. 13, the upper o/e converter 16) for photo-electrically converting the optical signals to measure the average power of the optical signals distributed by said distributor; a filter (fig. 13, the lower filter 27) for passing the output signals of said first light receiver; an A/D converter (fig. 13, the combination of upper and lower A/D converter 18) for converting the first and second signal receivers into digital signal. Roberts differs from the claimed

Art Unit: 2633

invention in that Roberts does not specifically teach a filter for passing output signals of the light receiver over the frequency band of interest for measuring and a power meter for measuring signal power over the frequency band filtered, and the center frequency of the filter falls within the frequency band of data signal or corresponds a frequency of a high-frequency pilot tone. However, it is well known in the art to use a filter for passing output signals of the light receiver over the frequency band of interest for measuring and a power meter for measuring signal power over the frequency band filtered. For example, Ooi discloses to uses a filter for passing output signals of the light receiver over the frequency band of interest for measuring and a power meter for measuring signal power over the frequency band filtered (fig. 20, BPF and power meter), and it is obvious that the center frequency of the filter can be adjusted to fall within the frequency band of data signal or correspond a frequency of a high-frequency pilot tone. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate a filter for passing output signals of the light receiver over the frequency band of interest for measuring and a power meter for measuring signal power over the frequency band filtered, as it is disclosed by Ooi, into the system of Roberts and configure the filter to have a center frequency fall within the frequency band of data signal or correspond a frequency of a high-frequency pilot tone in order to monitor PMD of the signal. Roberts and Ooi differs from the claimed invention in that Roberts and Ooi do not specifically teach a microprocessor for measuring the average power of the optical signals by using the digital signals from said A/D converter and monitoring the polarization-mode dispersion and the chromatic

Art Unit: 2633

dispersion using the power values measured by said power meter. However, it is well known in the art at the time when the invention was made to use a microprocessor for processing the signal to generate desired information, such as polarization-mode dispersion and the chromatic dispersion. For example, Ishikawa teaches a dispersion controller (fig. 29, composition amount controller 46) comprising an analog-to-digital (A/D) converter (fig. 29, A/D 94) for converting the analog signals from a receiver into digital signals; and a microprocessor (fig. 29, MPU) to generate information on dispersion (column 12, lines 63-67 and column 13, lines 1-12). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate a microprocessor, as it is taught by Ishikawa, into the modified monitoring unit of Roberts and Ooi in order to precisely measure the dispersion of the optical signals.

Regarding claims 14 and 18, Roberts further teaches that the distributor is an optical coupler (fig. 13, coupler 42).

Regarding claims 15 and 19, Ooi further discloses that the filter passes only over the frequency band of interest for measuring (column 2, lines 32-37).

3. Claims 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. (U.S. Patent US 5,949,560) in view of Ooi et al. (U.S. Patent US 6,829,440 B2) and Ishikawa et al. (U.S. Patent US 6,081,360) and further in view of Taga et al (U.S. Patent US 5,872,647).

Regarding claims 13 and 17, the modified system of Roberts, Ooi, and Ishikawa differs from the claimed invention in that Roberts, Ooi, and Ishikawa do not specifically teach that the optical signal are modulated by a polarization scrambler to have a polarization state in every direction. However, it is well known in the art to modulate optical signals by a polarization scrambler to have a polarization state in every direction. For example, Taga teaches a polarization scrambler (fig. 1, POLARIZATION SCRAMBLER 4) for scrambling the polarization of the optical signals to have a polarization state in every direction. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate a polarization scrambler, as it is taught by Taga, in the modified system of Roberts, Ooi, and Ishikawa to modulate the optical signals to have a polarization state in every direction in order to minimize the polarization dependent effects on the optical transmission.

#### ***Allowable Subject Matter***

4. Claims 5-11 are allowed.

#### ***Response to Arguments***

5. Applicant's arguments with respect to claims 12-19 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

Art Unit: 2633

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

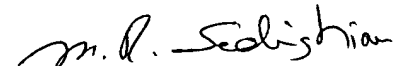
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan-Zhen Wang whose telephone number is (571) 272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2633

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

qzw  
9/21/2005

  
**M. R. SEDIGHIAN**  
**PRIMARY EXAMINER**